

Applicant submits that Umise is directed to a transfer sheet and not a recording material as disclosed in the present application and the cited prior art.

Umise is directed to and discloses thermal transfer sheets not recording material as claimed, and thus cannot be used to provide a teaching to modify the recording material of the other cited references. It appears that the examiner does not appreciate the significant difference between the functions of a thermal transfer sheet and an ink receiving sheet of a recording material.

The terms “thermal transfer sheet” and term “ink receiving layer” of a recording sheet are well known in the art. A recording material has an ink receiving layer that is capable of receiving ink from a thermal transfer sheet in contact with the ink receiving layer under heat and pressure applied by a recording head. The recording head does not contact the ink receiving layer, but rather is in contact with the thermal transfer sheet. The thermal transfer sheet is in contact with the recording head, and upon heating and under pressure, ink from the thermal transfer sheet is released and transferred to the recording material (i.e. the ink receiving layer). Thus, the function of the thermal transfer sheet is facilitate the transfer of the ink from the thermal transfer sheet to the ink receiving layer for the recording material. On the other hand, the function of the ink receiving layer is to receive the ink to fixedly record an image and prevent further transfer of the ink to inhibit the smearing and smudging of the image.

Analogously, the recording material having an ink receiving layer can be thought of as a piece of typing paper and the thermal transfer sheet can be thought of as the ink ribbon, and the recording head can be thought of as the recording head. The pressure from the recording head against the ink ribbon causes a transfer for the ink from the ribbon to the typing paper. Clearly the ink ribbon and the typing paper have different functions and properties and thus one would not consider that the ink ribbon and the typing paper are interchangeable. Yet this is exactly what the Examiner has done in her application of the prior art.

The applicant's disclosure is directed to a recording material, and each of the amended claims recite specific limitations of the ink receiving layer. Umise, however, is directed to a thermal transfer sheet and therefore there is absolutely no support for the examiner's application of the teachings of the thermal transfer sheet disclosed in Umise to modify the prior art ink receiving layers disclosed in Hakomori and Amagai in order to reject the pending claims.

Hakomori et al. and Amagai et al are directed to a recording material (image receiving sheet). In fact Amagai in figure 3, shows the operation of the thermal head 3a, the thermal transfer ink ribbon 1 and the image receiving recording sheet 2.

Umise on the other hand is directed to, discloses and is even appropriately titled "thermal transfer sheet". In column 1, line 11, Umise states "the present invention relates to a thermal transfer sheet". It is the Applicant's hope that the Examiner has just

misunderstood the term “recording material layer” in Umise. The “recording material layer” as defined in Umise is a part of the thermal transfer sheet. In column 3, lines 40-49 Umise states “According to a first aspect of the present invention, there is provided a thermal transfer sheet comprising a substrate film, a recording material layer formed on one surface side of the substrate film...wherein the recording material layer comprises a heat-fusible ink capable of being melted under heating...”.This description of the recording material layer is further evidenced in Col. 3, line 59-Col. 4, line 24 and clearly refers to the ink that is to be transferred.

The Office Action identifies Table 8, Col. 17, lines 4-6 and recently Col. 15, lines, 23, 27, and 49 of Umise as disclosing the claimed static/dynamic friction coefficients. However, Table 8 shows the properties of thermal transfer sheet samples 1-24. The back coating ink no., the recording material ink no. and the friction coefficient are all properties of the thermal transfer sheet, “samples 1 to 8 were in accordance with the second aspect of the present invention, 9-12 were in accordance with a third aspect of the present invention, and 17-21 were in accordance with the fourth aspect of the present invention by use of the 24 species of the thermal transfer material samples the following items were evaluated.” Column 15 line 55-Column 16, line 5.

Col. 17 line 4-6 of Umise states “ the back coating layer was caused to contact the roller surface and the peeling of the back coating layer was evaluated under the above mentioned conditions.” The back coating layer is a part of the thermal transfer sheet as stated in Col 3, lines 40-49, “According to a first aspect of the present invention, there is

provided a thermal transfer sheet comprising a substrate film, a recording material layer...and a back coating layer formed on the other surface side of the substrate film...”

Column 15, lines 23, 27 and 49 of Umise states “A back coating layer was formed on one surface side of a 6 um thick polyethylene terephthalate film and a recording material layer was formed on the other surface side respectively thereby to prepare 24 species of thermal transfer sheets” and “The ink R-1 for recording material layer was heated at 100 C and applied onto the surface of the substrate film reverse to the surface thereof provided with the abovementioned back coating layer, by a hot-melt roller coating method in a coating amount of about 5.0 g/m², thereby to form a recording material layer.” Again the back coating layer and the recording material layer are part of the thermal transfer sheet, not a image receiving sheet (recording material) as described in the present claims.

Thus all of the properties disclosed in Umise relate to the thermal transfer sheet which the examiner must acknowledge serves a significantly different function than an ink receiving layer. Clearly there is absolutely no teaching that the prior art ink receiving layers can be modified by the properties of the thermal recording sheet disclosed in Umise and therefore the rejection of the claims must be withdrawn. Thus the claims as amended in the amendment dated October 10, 2003 are in condition for allowance and indication of such is expected.

Conclusion

The Examiner's persistence on maintaining a clearly erroneous rejection regarding the disclosure of Umise is unacceptable. If the Examiner continues to rely upon Umise, the Applicant will have no option except to file an Appeal. The Applicant respectfully request reconsideration and allowance of Claims 4, 5, 7, 8, 11 and 12 as amended in the Amendment of October 10, 2003.

Respectfully submitted,



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